

CORRECTED VERSION

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
2 June 2005 (02.06.2005)

PCT

(10) International Publication Number  
**WO 2005/050729 A1**

(51) International Patent Classification<sup>7</sup>: **H01L 21/324**

(21) International Application Number:  
PCT/KR2004/002140

(22) International Filing Date: 26 August 2004 (26.08.2004)

(25) Filing Language: Korean

(26) Publication Language: English

(30) Priority Data:  
10-2003-0083692  
24 November 2003 (24.11.2003) KR

(71) Applicant (for all designated States except US): **KOR-  
NIC SYSTEMS CORP.** [KR/KR]; 605 Jung-ri, Dongtan-  
myeon, Hwaseong-si, Gyeonggi-do 445-8 (KR).

(72) Inventor; and

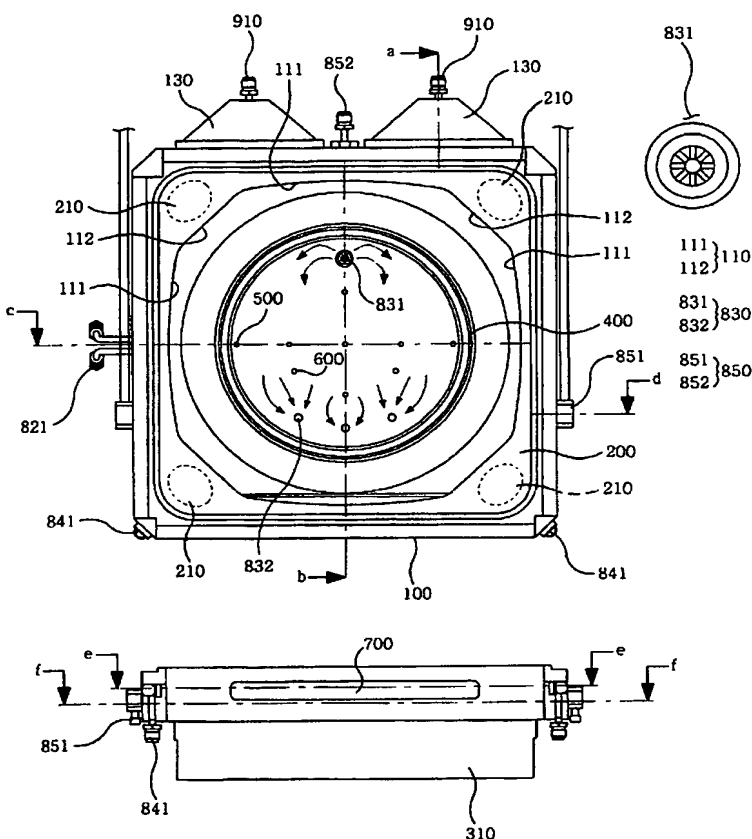
(75) Inventor/Applicant (for US only): **NAM, Won Sik**  
[KR/KR]; 520 Byeongjeom-ri, Taeon-eup, Hwaseong-si,  
Gyeonggi-do 445-974 (KR).

(74) Agent: **HUH, Jin-Seok**; 304 Yeongshin B/D, 832-3 Yeok-  
sam-dong, Gangnam-gu, Seoul 135-080 (KR).

(81) Designated States (unless otherwise indicated, for every  
kind of national protection available): AE, AG, AL, AM,  
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,  
KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG,  
MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH,  
PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN,  
TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

[Continued on next page]

(54) Title: **RAPID THERMAL PROCESSING SYSTEM**



(57) Abstract: Disclosed herein is a rapid thermal processing system. The rapid thermal processing system comprises a chamber having an inner surface with a cross-section in a multi-line shape consisting of a plurality of arcs separated from each other while having the same radius and the center, and a plurality of lines connecting the arcs. The chamber overcomes disadvantages of a conventional circular-shaped chamber and the square-shaped chamber. Furthermore, a quartz window has an outer peripheral surface consisting of a combination of a tilt surface, a perpendicular surface, and a round surface, so that even though the quartz window is mounted on the chamber in an inversed state, sealing between the chamber and the quartz window can be maintained. Components of an edge ring are connected by means of a double connecting structure, thereby ensuring a high resistance against thermal deformation compared with the prior art. Additionally, the rapid thermal processing system is provided with independent cooling systems for respective components thereof, allowing effective temperature control for the respective components.

WO 2005/050729 A1



(84) **Designated States** (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Published:**

— with international search report

(48) **Date of publication of this corrected version:**

13 October 2005

(15) **Information about Correction:**

see PCT Gazette No. 41/2005 of 13 October 2005, Section II

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*